

Short Communication

Note on the identity of *Haliotis clathrata* Lichtenstein, 1794 (not Reeve, 1846)

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Haliotis clathrata Lichtenstein, 1794, is a senior homonym of *H. clathrata* Reeve, 1846. Geiger & Stewart (under consideration) have petitioned the International Commission on Zoological Nomenclature to suppress *H. clathrata* Lichtenstein in order to preserve two rather well known taxa: the junior homonym *H. clathrata* Reeve, which is discussed in detail by Stewart & Geiger (in press), and the junior synonym *H. elegans* Philippi, 1844. Here I present the arguments for the synonymy between *H. clathrata* Lichtenstein and *H. elegans*. The work of Lichtenstein is discussed in Kerzhner (1994) and Geiger & Stewart (under consideration). The approximately 200 species-level taxa within the Haliotidae are dealt with in Geiger (in press).

Haliotis clathrata Lichtenstein has so far been considered a *nomen dubium* (Wagner & Abbott, 1978), particularly because Lichtenstein (1794) is an exceedingly rare work, and had been written in Latin and archaic German. I base my discussion on a microfilm copy available at the University of California, Berkeley. The whereabouts of Lichtenstein's specimens are unknown.

Original description of *H. clathrata* Lichtenstein (1794)

;1228! *Haliotis clathrata*, nobis. *Haliotis* testa ovata striis longitudinalibus & transversis tuberculatis versicoloribus. Discus longitudinaliter pertusus poris modo quinque, quorum ultimus 7/8 pollic. ab extremo canaliculo aperturæ distat. Labium externum profunde denticulatum. Superficies testæ tuberculis granulato - unguiculatis imbricata. Habitat in nova Hollandia ab sinum botanicum.

Ein bisher noch unbekanntes See-Ohr vom Botany Bay, diese Schnecke gleicht der vorhergehenden nach ihrer inneren Wand an Glanz und Schönheit, und da solche gegittert ist, so zeigt sich gleichsam verschiedene bey einander liegenden Perlen Schnüre, von reizenden Farben, indem sie an taubenhalsigen und [p]fauenschweiffigen Schimmer erster nichts nach giebt, die Schnecke hat nur 5 offene Löcher, und sie weicht von allen anderen dieses Geschlechtes davon ab, dass solche nicht bis zum Ende des äusseren Mündungs-Canal hinaus laufen, sondern die letzte grösste 7/8 Zoll davon entfernt ist; die äussere Lippe ist mit starken Einschnitten gezähnt, die Unterfläche zieht den schönsten Perlmutter-Glanz, auf der Oberfläche liegen erhabene Perlenschnüre bey einander, welche aus Hohlziegeln oder Nägeln bestehen, (höchstselten.)"

Translation: 1228 ! *Haliotis clathrata*, by us. An abalone with an oval shell bearing longitudinal strings and transverse tubercles of various colors. The disc is

perforated longitudinally with only 5 holes, of which the last one is 7/8 inches away from the external canal of the aperture. The outer lip is deeply serrated. The surface of the shell is covered in granulated and fingernail-like tubercles. Lives in Australia in the Bay of Botany [just south of Sydney, New South Wales: 13°04' S, 151°08' E]

A so far still unknown abalone [literally: sea ear] from Botany Bay, this snail is similar to the previous [1226-1227: *H. iris* Gmelin, 1791] in its inner wall in respect to shine and beauty, and because it is reticulated, therefore shows so to speak different closely adjacent stings of pearls, of delightful colors, by which they are in no way inferior to the pigeon neck and the peacock-tail glitter of the first one, the shell has 5 open holes, and it differs from all others of this genus that these do not extend to the end of the outer apertural canal, but the last largest is 7/8 inches therefrom away; the outer lip is serrated with strong incisions, the under side shows the nicest nacreous shine, on the surface elevated strings of pearls lay together, which are composed of hollow tiles or fingernails, (exceedingly rare.)

Identity of *H. clathrata* Lichtenstein.

The species described does not refer to *H. clathrata* Reeve, ruling out an erroneous attribution of Lichtenstein's species to Reeve. *H. clathrata* Reeve does not have the elevated scales mentioned in the description of *H. clathrata* Lichtenstein. The sculpture of *H. clathrata* Reeve consists of fine spiral cords, and may have additional radial folds. Several characters of *H. clathrata* Lichtenstein point to *H. elegans* Philippi, 1844: the type locality in temperate Australia, the numerous hollow scales, which are arranged in parallel rows, and the fact that the last open perforation is not close to the apertural margin (cf. Geiger, 1991: fig. 8; Wilson, 1993: pl. 3 fig. 2B), a fairly constant feature in larger specimens of this species and only known to occur occasionally in other abalone species (Geiger, 1991: fig 8 shows *H. gigantea* Gmelin, 1791, *H. midae* Linnaeus, 1758, *H. tuberculata* Linnaeus, 1758; Geiger, pers. obs.: *H. pulcherrima* Gmelin, 1791). The number of open perforation falls in the range commonly encountered in *H. elegans*, although little weight should be given to this character. The dorsal side of the shell is described as being of various colors, whereas *H. elegans* usually has a constant shell color; a dull brick-red covers rather smoothly the entire shell, except occasionally for the spire, which may be eroded exposing some nacre, but some mottled specimens have been seen by the present author. Only one character does not agree with such an identification. The nacre of *H. iris* from New Zealand, to which *H. clathrata* Lichtenstein is compared, is very dark, but is rather light in *H. elegans*. However, Lichtenstein's comparison rather referred to the beauty and freshness of the two specimens and not to the color of the nacre. Additionally, the type locality is not within the present day known distribution of the species, which spans from Esperance to Fremantle and Geraldton, Western Australia (Wells & Bryce, 1985; Wilson, 1993). Inconsistencies in type localities are common in the older literature, as shown for *H. unilateralis* Lamarck, 1822, and *H. squamosa* Gray, 1826, both with type locality of Australia, but restricted occurrence in the Red Sea and Southern Madagascar, respectively (Dautzenberg, 1932; Stewart, 1984; Geiger, 1996; in press). Despite

these small inconsistencies, the overwhelming majority of the clear evidence indisputably indicates, that *H. clathrata* Lichtenstein is synonymous with *H. elegans*.

References

- Dautzenberg, P. 1932. Mollusque testacés marins de Madagascar. Supplément [Shelled Marine Mollusks of Madagascar. Supplement]. *Journal de Conchyliologie*, **76**: 5-119.
- Geiger, D. 1991. Einige Aspekte über die Biologie von *Haliotis*. *Club Conchylia Informationen* **23**: 87-108.
- Geiger, D. 1996. Haliotids in the Red Sea, with neotype designation for *Haliotis unilaterialis* Lamarck, 1822 (Gastropoda: Prosobranchia). *Revue Suisse de Zoologie*, **103**: 339-354.
- Geiger, D. L. (in press). Recent genera and species of the family Haliotidae Rafinesque, 1815 (Gastropoda: Vetigastropoda). *The Nautilus*.
- Geiger, D. L. & Stewart, K. A. (under consideration). Suppression of *Haliotis clathrata* Lichtenstein, 1794 to preserve *H. clathrata* Reeve, 1846 and *H. elegans* Philippi, 1844. (Gastropoda, Prosobranchia). *Bulletin of Zoological Nomenclature*.
- Kerzhner, I. M. 1994. Case 2862. A.A.H. Lichtenstein's (1796, 1797) *Catalogus musei zoologici ... Sectio tertia. Continens Insecta* and D.H. Schneider's (1800) *Verzeichniss einer Parthei Insekten ...: proposed suppression, with conservation of some Lichtenstein (1796) names (Insecta and Arachnida)*. *Bulletin of Zoological Nomenclature*, **51**: 108-115.
- Lichtenstein, A. A. H. 1794. *Catalogus rerum naturalium rarissimum. Sectio secunda continens Conchylia, item mineralia, ligna exotica, & arte parata*. G. F. Schniebes, Hamburg.
- Stewart, K. 1984. Notes on *Haliotis squamosa* Gray, 1827. *Shells and Sea Life*, **16**: 92-95.
- Stewart, K. A., & Geiger, D. L. (in press). Designation of lectotype for *Haliotis crebrisculpta* Sowerby, 1914, with a discussion of *H. clathrata* Reeve, 1846 (non Lichtenstein, 1794). *The Veliger*.
- Wagner, R. J., & Abbott, R. T. 1978. *Standard Catalog of Shells, Third Edition*. American Malacologists, Greenville.
- Wells, F. E. & Bryce, W. 1985. *Seashells of Western Australia*. Western Australian Museum, Perth.
- Wilson, B. 1993. *Australian Marine Shells 1*. Odyssey Publishing, Kallaroo.